FIG. 1

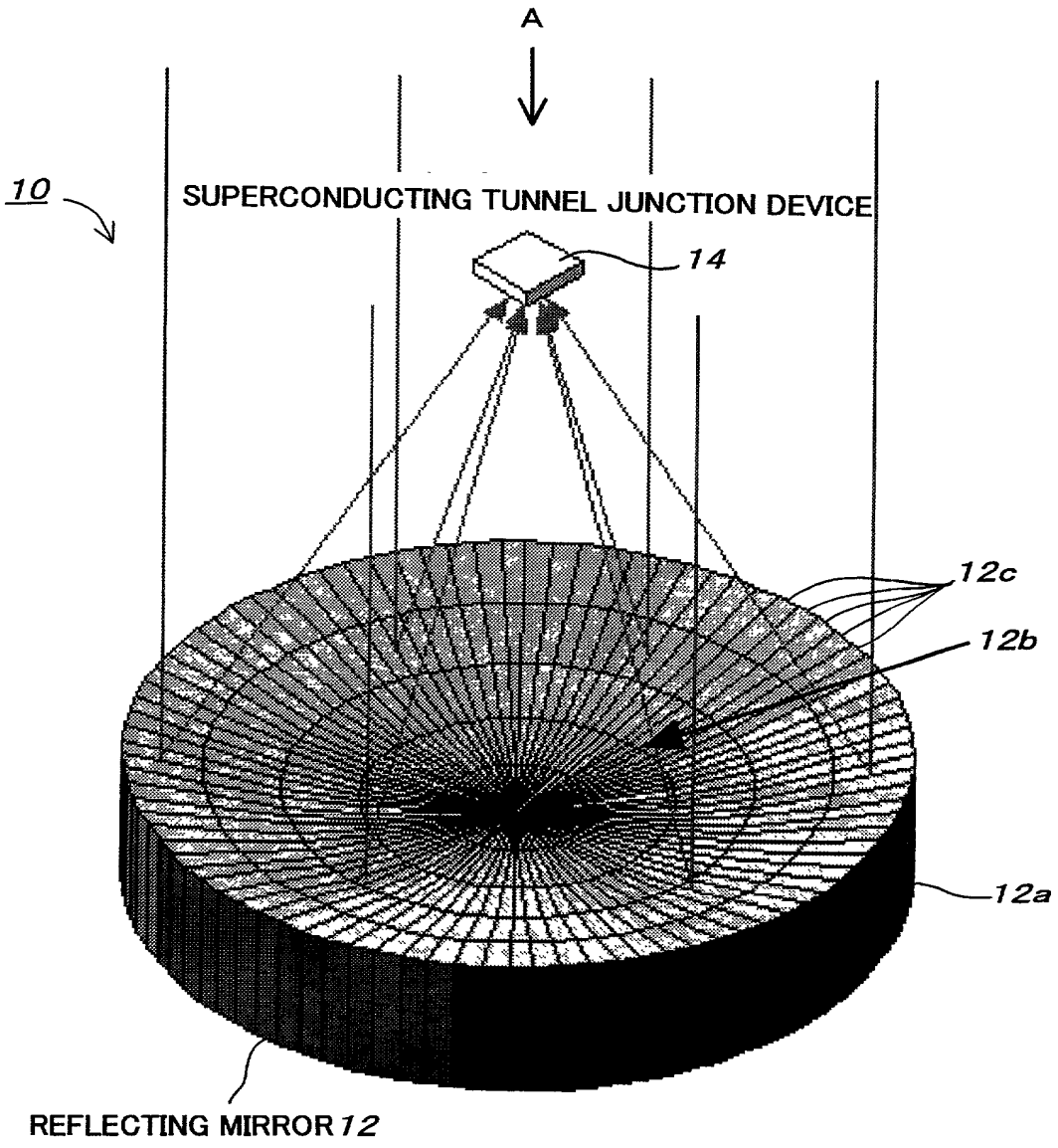

A
10
SUPERCONDUCTING TUNNEL JUNCTION DEVICE
14
12c
12b
12a
REFLECTING MIRROR 12

FIG. 2

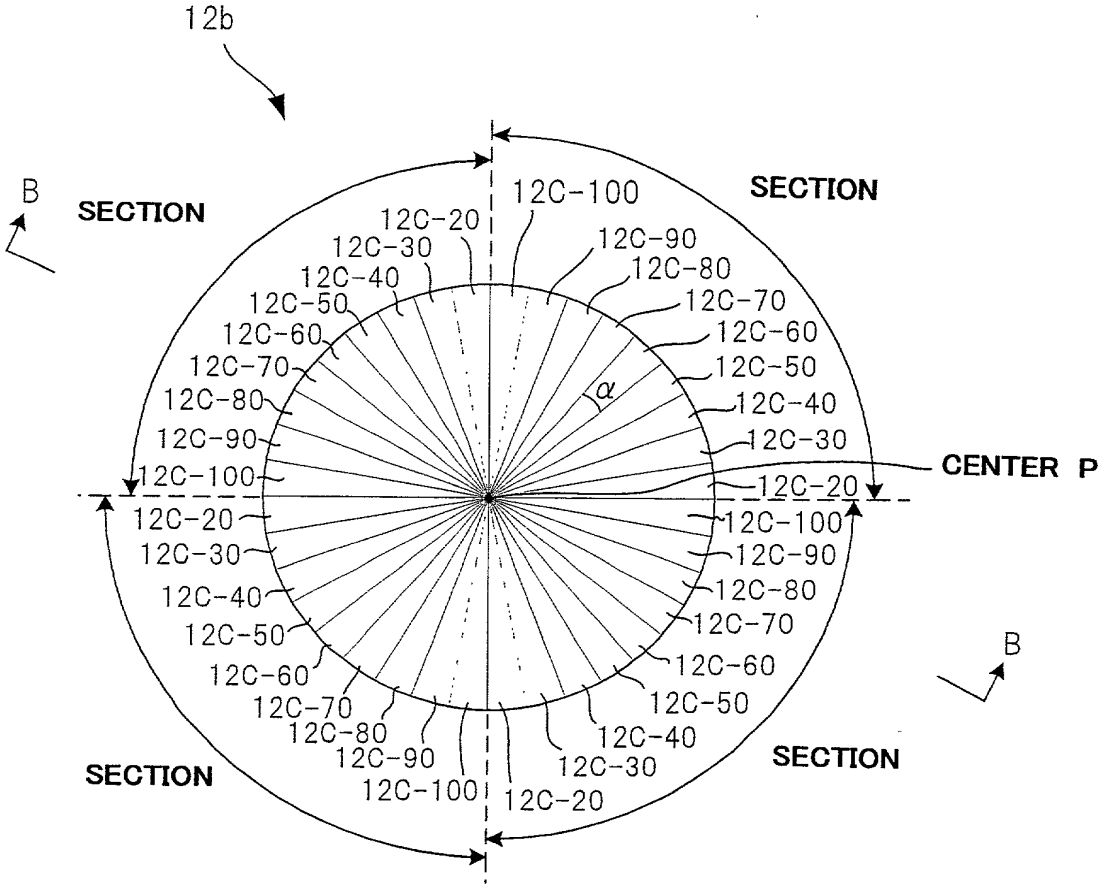

12b
B
SECTION
SECTION
B
SECTION
SECTION
CENTER P
α
12C-20
12C-30
12C-40
12C-50
12C-60
12C-70
12C-80
12C-90
12C-100

FIG. 3

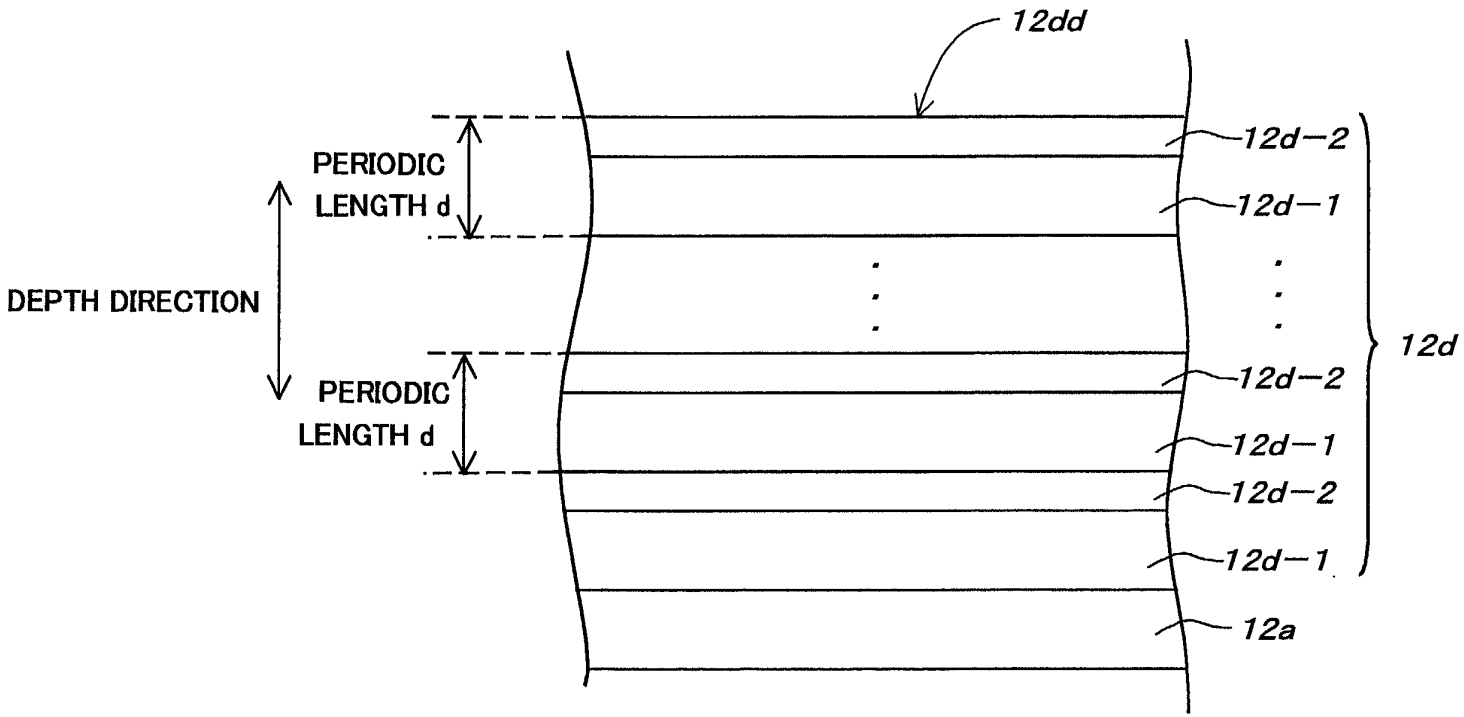

12dd
PERIODIC LENGTH d
DEPTH DIRECTION
PERIODIC LENGTH d
12d−2
12d−1
12d−2
12d−1
12d−2
12d−1
12a
12d

FIG. 4(a)

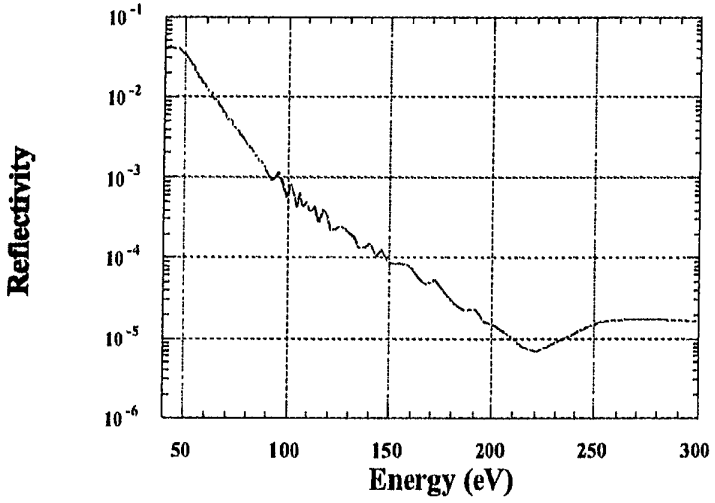

Reflectivity
10^-1
10^-2
10^-3
10^-4
10^-5
10^-6
50
100
150
200
250
300
Energy (eV)

FIG. 4(b)

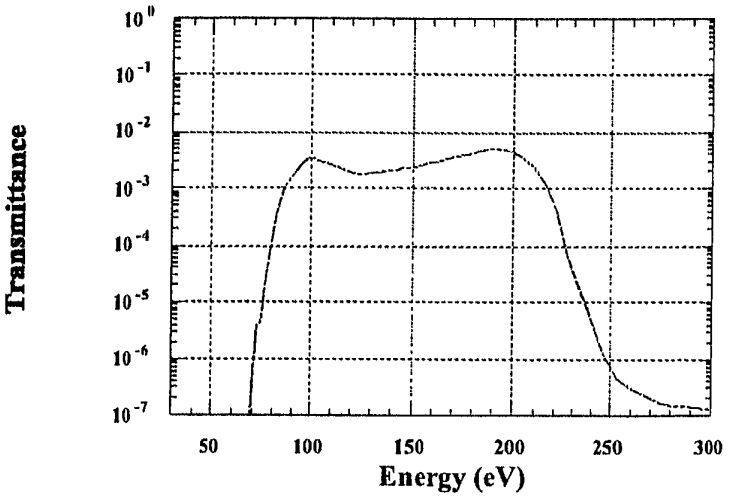

Transmittance
10^0
10^-1
10^-2
10^-3
10^-4
10^-5
10^-6
10^-7
50
100
150
200
250
300
Energy (eV)

FIG. 5

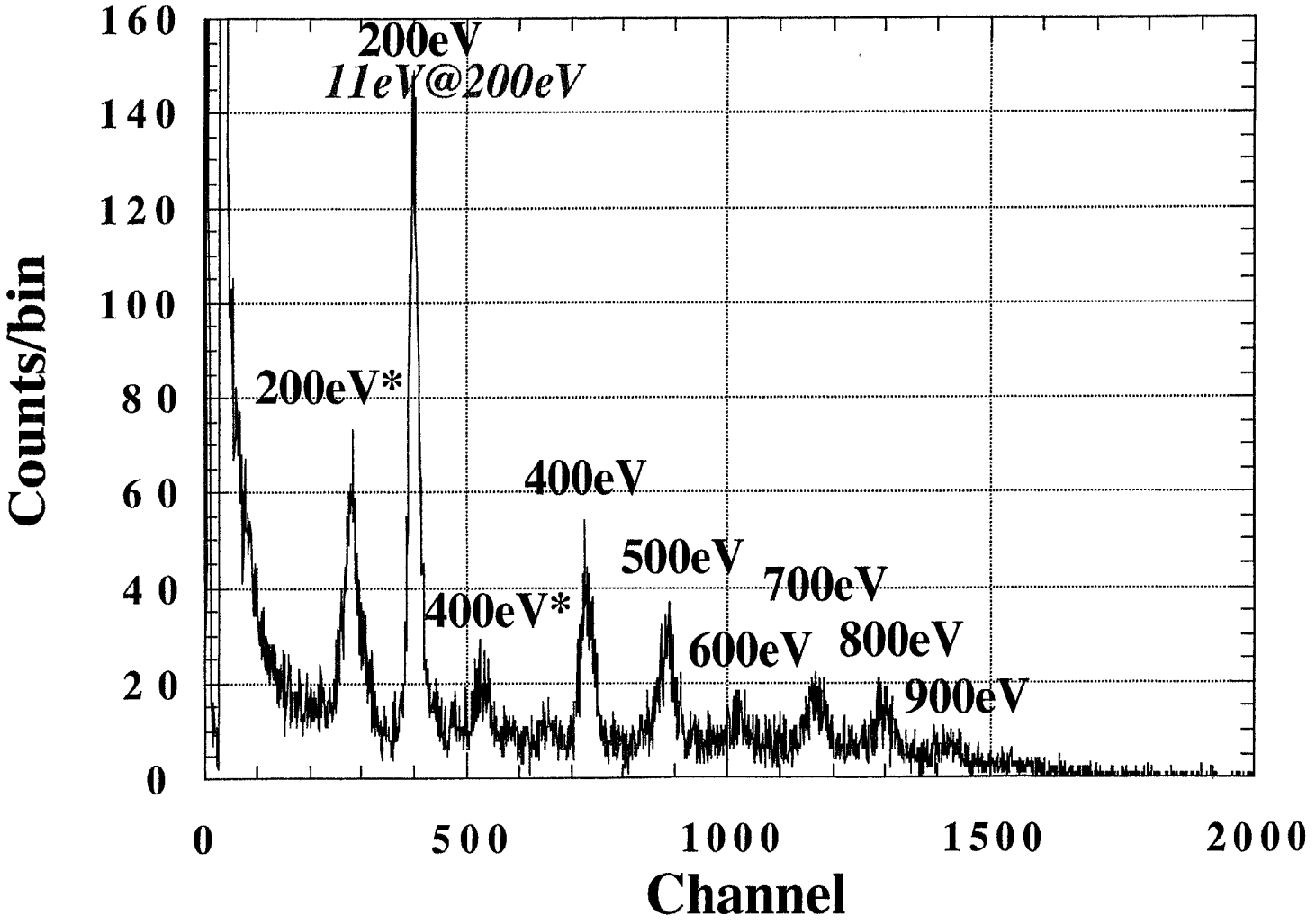
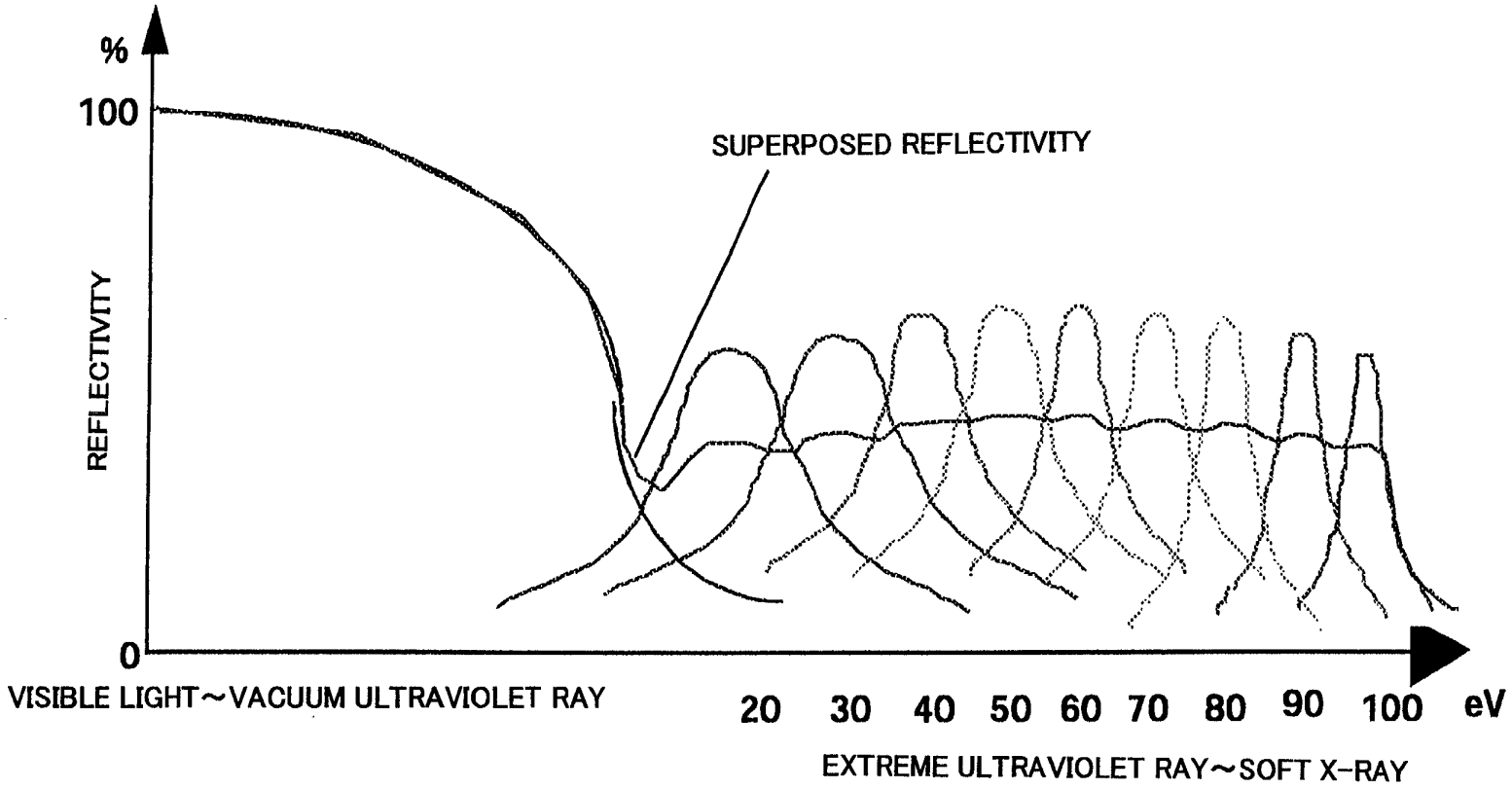

160
140
120
100
80
60
40
20
0
Counts/bin
200eV
11eV@200eV
200eV*
400eV
500eV
700eV
400eV*
600eV
800eV
900eV
0
500
1000
1500
2000
Channel

FIG. 6



SYNTHESIZED REFLECTIVITY CHARACTERISTICS OF MULTILAYER FILM REFLECTING MIRROR

FIG. 7(a)

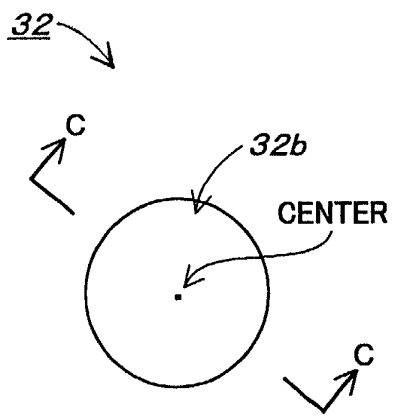

32
C
32b
CENTER
C

FIG. 7(b)

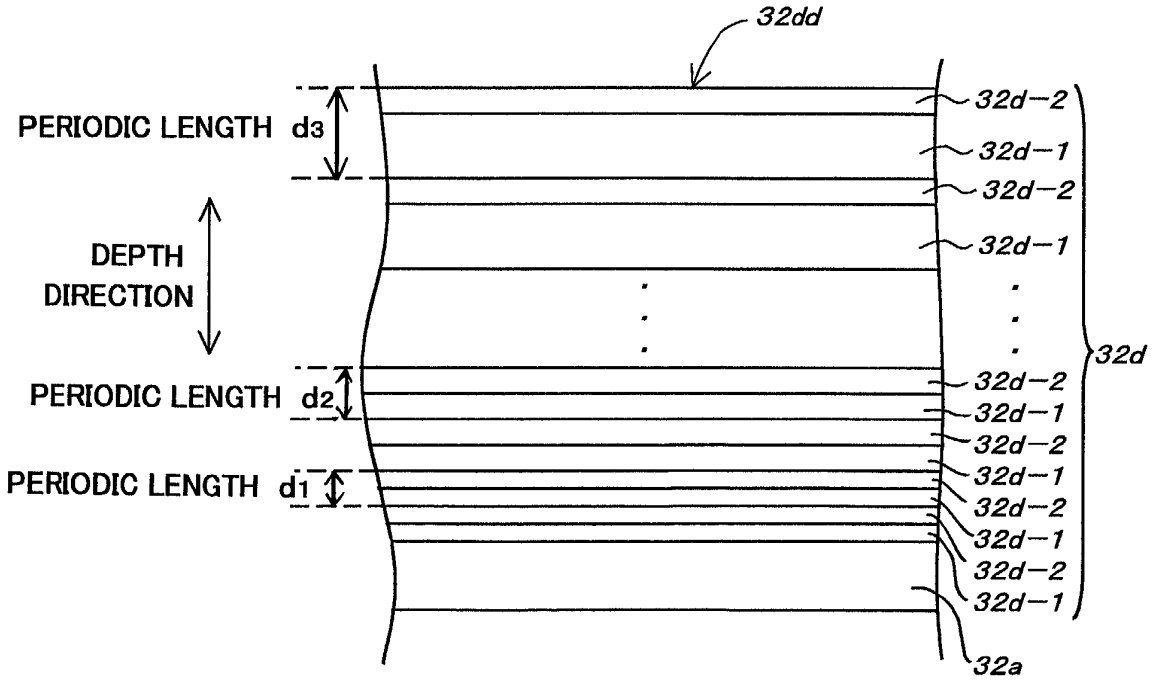

32dd
PERIODIC LENGTH d3
DEPTH DIRECTION
PERIODIC LENGTH d2
PERIODIC LENGTH d1
32d-2
32d-1
32d-2
32d-1
32d-2
32d-1
32d-2
32d-1
32d-2
32d-1
32d-2
32d-1
32d
32a

FIG. 8

NUMBER	MATERIAL1	MATERIAL2	VALUE d	VALUE γ	NUMBER OF PAIR LAYER	THEORETICAL CALCULATION1	THEORETICAL CALCULATION2
1	Mo	Mg2Si	170	50	20	O	O
2	Mo	Mg2Si	190	50	20	O	O
3	Mo	Mg2Si	210	40	20	O	O
4	Mo	Si	115	50	20	O	O
5	Mo	Si	140	50	20	O	O
6	Mo	Si	55	50	20	O	O
7	Mo	Si	60	50	20	O	O
8	Mo	Si	65	50	20	O	O
9	Mo	Si	65	70	20	O	O
10	Mo	Si	70	70	20	O	O
11	Mo	Si	75	70	20	O	O
12	Mo	Si	80	50	20	O	O
13	Ni	C	22	40	200	O	×
14	Ni	C	25	40	200	O	×
15	Ni	C	30	40	200	O	×
16	Ni	C	40	30	30	O	×
17	Ni	C	45	30	30	O	×
18	Ni	C	50	30	30	O	×
19	Ni	C	55	30	30	O	×
20	Ni	C	60	30	30	O	×
21	Mo	Si	85	50	20	O	O
22	Mo	Si	90	50	20	O	O
23	Mo	Si	95	50	20	O	O

FIG. 9

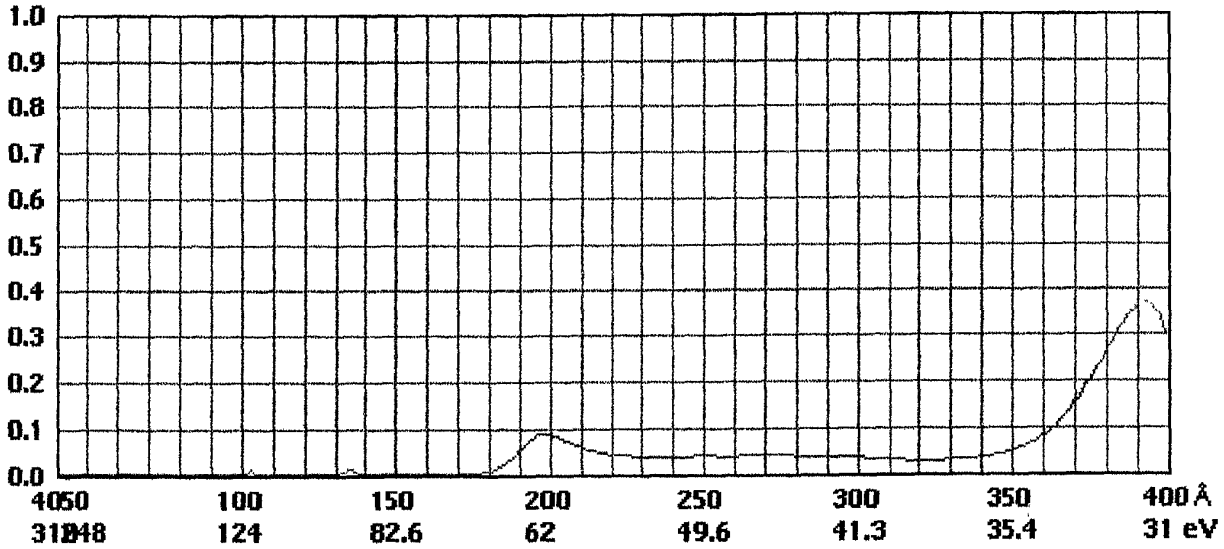


FIG. 10

COMPARISON OF SYNTHESIZED REFLECTIVITY IN
MULTILAYER FILM WITH REFLECTIVITY IN Pt MONOLAYER FILM

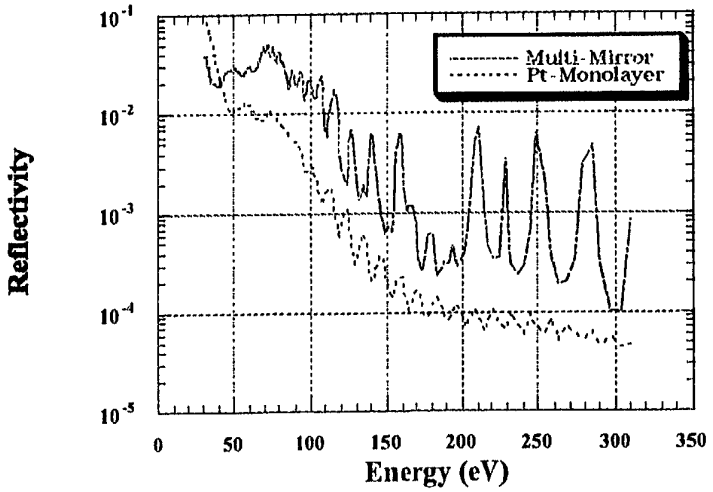


FIG. 11

COMPARISON OF SYNTHESIZED REFLECTIVITY WITH REFLECTIVITY IN Pt MONOLAYER IN CASE OF IGNORING 125 eV OR HIGHER

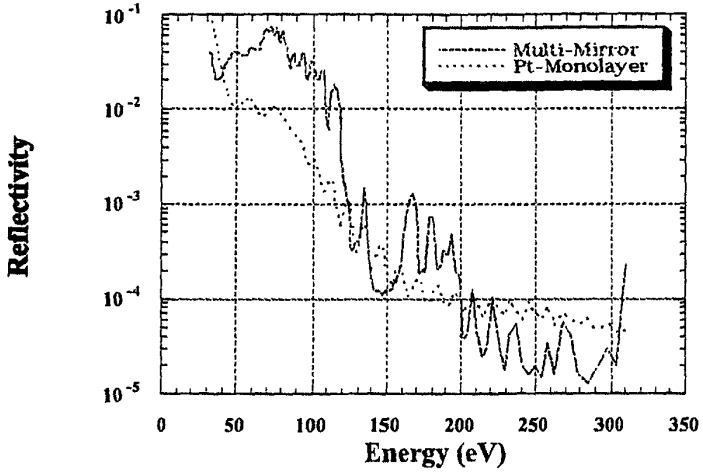


FIG. 12

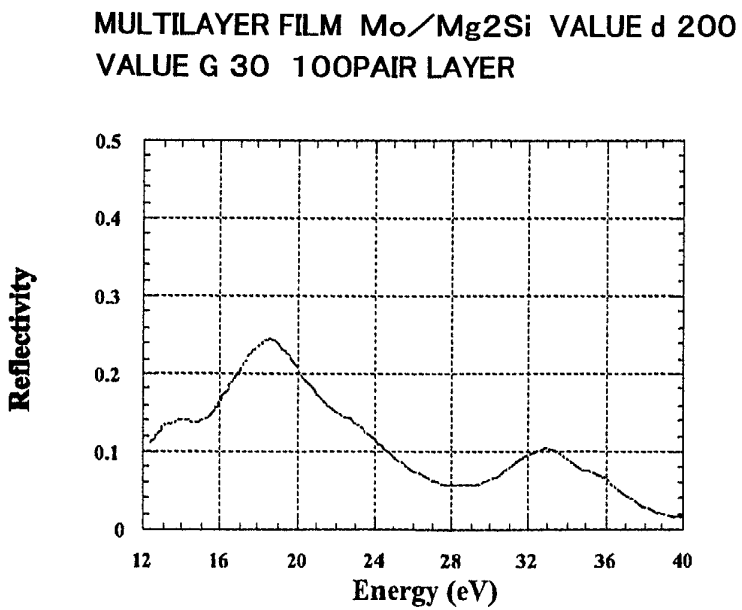


FIG. 13

NUMBER	MATERIAL1	MATERIAL2	INITIATION VALUE d	TERMINATION VALUE d	VALUE γ	NUMBER OF PAIR LAYER
1	Mo	Si	170	50	30	20
2	Mo	Si	190	50	50	20
3	Mo	Si	210	50	35	20
4	Mo	Si	115	50	25	20
5	Mo	Si	140	50	20	100

FIG. 14

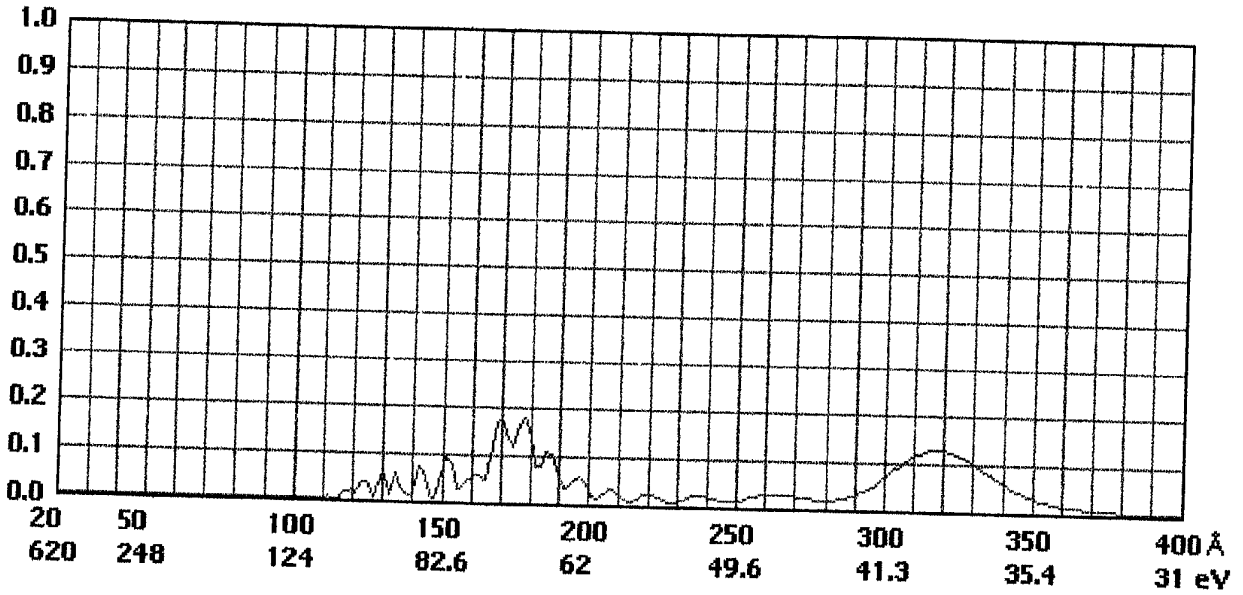


FIG. 15

COMPARISON OF SYNTHESIZED REFLECTIVITY IN SUPERMIRROR WITH REFLECTIVITY IN Pt MONOLAYER FILM

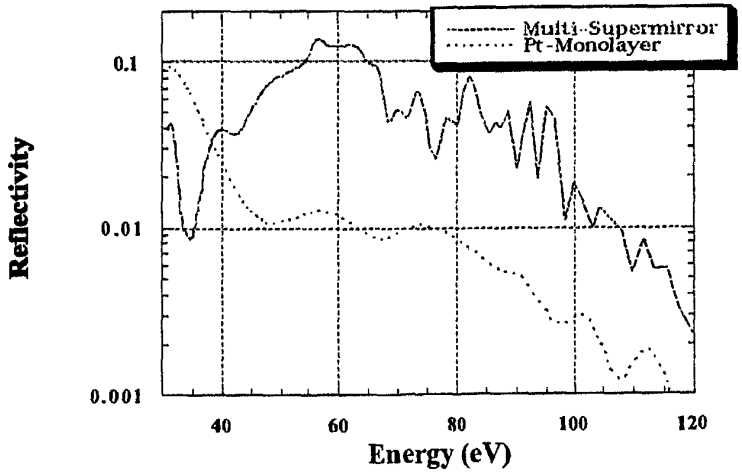


FIG. 16(a)

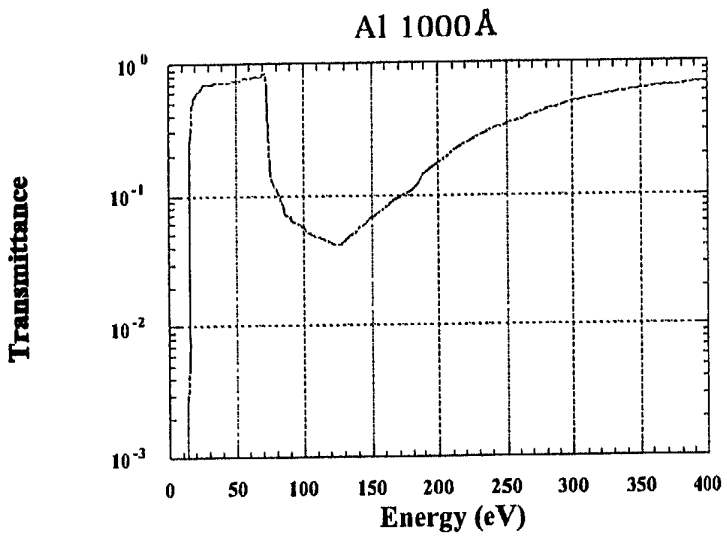


FIG. 16(b)

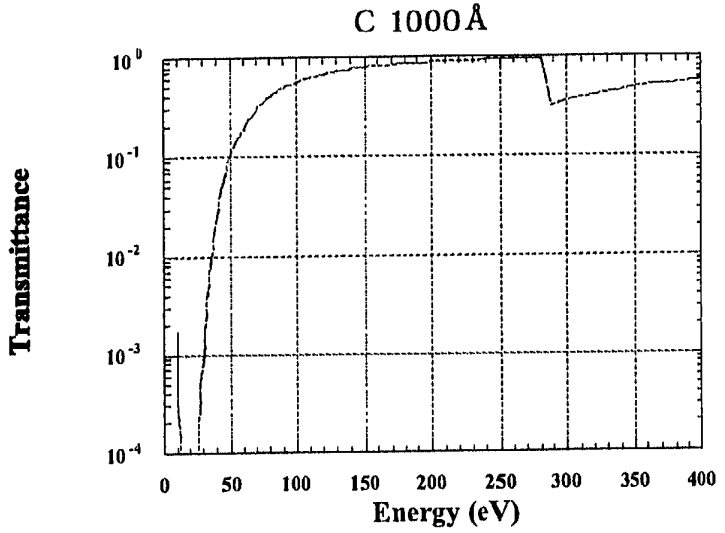


FIG. 17(a)

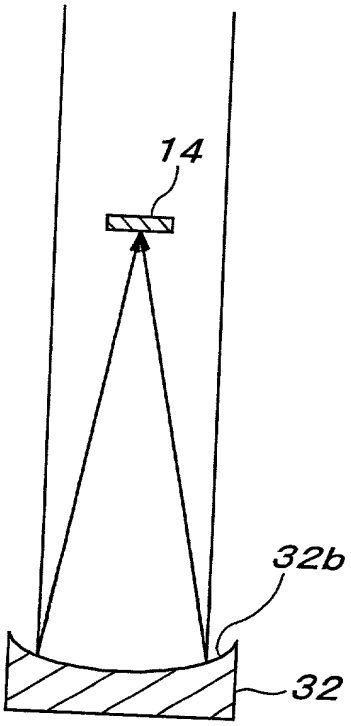


FIG. 17(b)

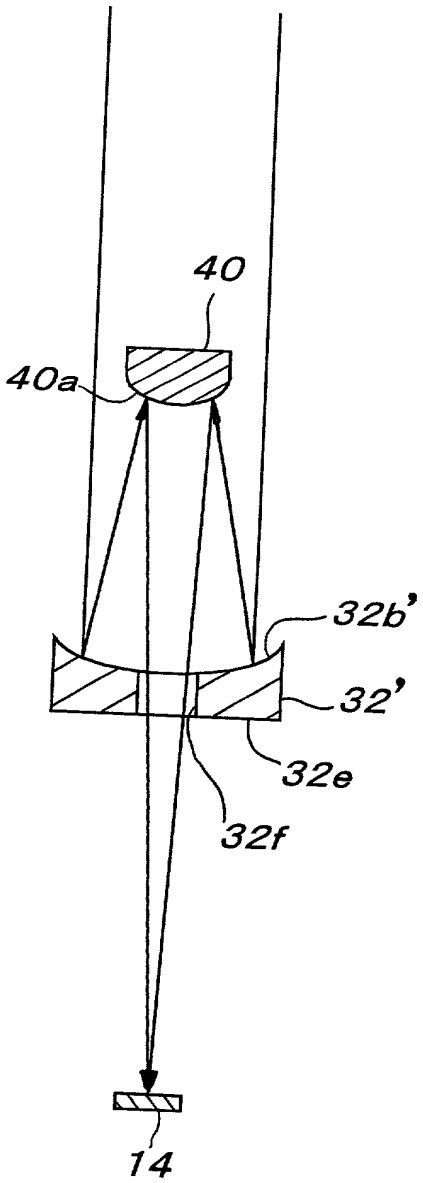


FIG. 18